the heat capacity curves, over 100 per cent air supply, the assumption being made that the total heat released is absorbed in raising the temperature of the products of combustion. This curve has a point of flexure at *A* on the curve of the heat capacity of the products of combustion formed with 100 per cent or theoretical air supply.

With this line as a base the points for similar curves may be located by setting off with a pair of dividers the additional heat capacities added by the preheating of the gas and the air supply to any temperature. These heat capacities are given in Table 4 and are plotted on the chart. The dividers may be set from the air or gas heat capacity curves on the charts and measuring the quantity of heat added at the temperature of preheat, and this distance added to the base line A to fix a point upon a curve showing the effect of preheat. Care should be used in stepping these distances off to set the dividers parallel with B.t.u. or calorie scale.

The writer frequently prefers to sum up the preheat points analytically, as shown, and use reference letters to connect the corresponding values shown.

TABLE 1

PEODUCEE GAS No. 3, CLEAN COLD GAS. TAE RETTTENED TO

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Liscum, A. C. Ford Motor, Co., *Power,* Aug. 31, 1920

Theoretical Air Supply (1) (2) (3)	Calories (4)	0_2 (5)	Products of Combustion $C0_2$ (6)	H_2O (7)	N_2 (8)
H_2 16.60X 58.2 =	966	8.30		16.60	33.20
	1074	11.00	5.50	11.00	44.00
CH_4 5.50X195.2 =	1848	13.55	27.10		54.20
			3.90		46.30
N_2 46.30					
H_2O 0.60				0.60	
/	3888	' 32.85	36.50	28.20	177.70